

REMARKS

Claim 14 was withdrawn as the result of a restriction requirement. Applicant acknowledges election of the claims of group I.

Claim 1 has been amended. New claims 15-20 have been added.

Claims 1-13 and 15-20 are pending for further examination.

Claim 1, as amended, recites an optical receiver that includes a rear-illuminated light-receiving device (e.g., 2 in FIG. 1A), a submount (e.g., 3A) and a coaxial type package (e.g., 4). The coaxial type package includes a first face that faces the light-entering side and has a pole (e.g., 7) that is parallel to the optical axis of the incoming light. The submount, which supports the light-receiving device and has a reflecting face (e.g., 3a), is located on the pole. A second face of the coaxial type package faces away from the light-entering side and has lead pins that are parallel to the optical axis of the incoming light.

The claimed arrangement may held alleviate problems associated with how to introduce incoming light from an optical fiber into a high-speed response rear-illuminated type light-receiving device mounted on a coaxial type package.

Originally-filed claims 1-13 were rejected under 35 U.S.C. § 103 as obvious from U.S. Patent No. 6,340,831 (Kuhara et al.). As discussed below, applicant respectfully requests reconsideration.

The Office action refers to the embodiment of FIGS. 30 and 31 of the Kuhara et al. patent. That embodiment discloses a PD chip 287 mounted on a silicon bench with a mirror 292 produced by etching (col. 24, line 36). The package 304 is a metal box-type package (col. 24, lines 40-41).

The Office action acknowledges that the package 304 is not a coaxial type package, but alleges that it would have been obvious to use such a package.

Applicant does not disagree that coaxial type packages were known. Indeed, the applicant acknowledges that the Kuhara et al. patent itself appears to disclose coaxial type packages (*see, e.g.*, FIGS. 6 and 16).

However, trying to incorporate the module of FIGS. 30 and 31 with a coaxial type package as shown in FIG. 16, for example, would present problems. In FIGS. 30 and 31, the fiber is indicated by 290; in FIG. 16, the fiber is identified by 81. Thus, the optical axis of the module of FIGS. 30 and 31 is perpendicular to the optical axis of the package of FIG. 16. It would not have been obvious how to incorporate the module of FIGS. 30 and 31 with a coaxial package such as that shown in FIG. 16.

Furthermore, even if one were to use a coaxial type package in connection with the arrangement of FIGS. 30 and 31, that would not result in the claimed subject matter. In particular, there is no disclosure or suggestion of providing the coaxial type package with a pole that is parallel to the optical axis of the incoming light from the optical fiber, with the submount located on the pole, as recited in independent claim 1. A contrary conclusion would be precisely the type of hindsight the Court of Appeals for the Federal Circuit has warned against.

At least for that reason, the rejections should be withdrawn.

Furthermore, claim 15 recites that the first face of the coaxial type package has a preamplifier arranged perpendicular to the light-receiving device. That can help prevent impairment of high-speed response times. By arranging the preamplifier perpendicular to the light-receiving device, the distance electrical signals must travel may be reduced.

The Kuhara et al. patent does disclose such an arrangement. Instead, as shown, for example, in FIG. 31, the amplifier 286 is arranged parallel to the PD chip 287.

For that additional reason, claims 15 and 16-20 should be allowed.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above

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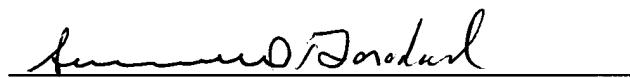
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may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

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